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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,147	07/27/2001	Thomas J. Pinnavaia	MSU 4.1-553	1331

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EXAMINER

LISH, PETER J

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 10/22/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/917,147

Applicant(s)

PINNAVAIA ET AL.

Examiner

Peter J Lish

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-26 is/are pending in the application.
- 4a) Of the above claim(s) 9-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Applicant's arguments with respect to the rejection over reference to Valange et al. have been fully considered and are persuasive. The rejection of claims 1, 2-5, and 8 as unpatentable over Valange et al. has been withdrawn.

Applicant's arguments with respect to the rejection over reference to Gonzalez-Pena ("Thermally Stable...") have been fully considered but they are not persuasive. Applicant cites that the shortcomings of the originally filed Declaration, paper #6, are overcome by new Declaration, labeled "Attachment A". No such attachment is found. Furthermore, it is now held that the limitation of a boehmite or pseudoboehmite structure requires the x-ray diffractogram contain peaks at 11.5, 39, 55, and 64, as stated by applicant.

Applicant's arguments with respect to the rejection over reference to Gonzalez-Pena ("Improved Thermal...") have been fully considered but they are not persuasive. Applicant cites that the shortcomings of the originally filed Declaration are overcome by new Declaration, labeled "Attachment A". No such attachment is found.

Applicant's arguments with respect to the rejection over reference to Pinnavaia et al. have been fully considered but they are not persuasive. Figure 8 of the Declaration, paper #6, contains peaks that establish a boehmite structure. Applicant argues that the reference does not contain "crystalline framework walls", however, this limitation is not required by the claims. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., crystalline framework walls) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van*

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Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, it is unclear as to why the reference fails to meet this condition.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims 1 and 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzalez-Pena et al. ("Thermally Stable Mesoporous Alumina...").

Gonzalez-Pena et al. discloses mesostructured alumina with pore volumes of greater than or equal to 0.40 cm³/g and with surface areas greater than 200 m²/g (see table 1). Non-ionic surfactants were used, such as PEO and DPA. It appears it would have a lattice spacing of at least 2.0 nm from the x-ray diffractogram in Figure 1. Gonzalez-Pena et al. does not disclose multiple wide angle x-ray diffraction lines that would establish a boehmite or gamma alumina structure, but may inherently show these lines in an x-ray diffractogram. Where the claimed and prior art product(s) are identical or substantially identical, or are produced by identical or substantially identical process(es), the burden of proof is on applicant to establish that the prior art product(s) do not necessarily or inherently possess the characteristics of the instantly claimed product(s), see *In re Best*, 195 USPQ 430.

Claims 1 and 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzalez-Pena et al. ("Improved Thermal Stability of Mesoporous Alumina Support...")

Gonzalez-Pena et al. discloses mesostructured alumina with pore volumes of greater than or equal to $0.40 \text{ cm}^3/\text{g}$ and with surface areas greater than $200 \text{ m}^2/\text{g}$ (see Figure 1B and Table 1 under Results and Discussion). Non-ionic surfactants were used, such as PEO. It appears it would have a lattice spacing of at least 2.0 nm from the x-ray diffractogram in Figure 2.

Gonzalez-Pena et al. does not disclose multiple wide angle x-ray diffraction lines that would establish a boehmite or gamma alumina structure, but may inherently show these lines in an x-ray diffractogram, especially since pseudo-boehmite and boehmite phases are taught (see results and discussion). Where the claimed and prior art product(s) are identical or substantially identical, or are produced by identical or substantially identical process(es), the burden of proof is on applicant to establish that the prior art product(s) do not necessarily or inherently possess the characteristics of the instantly claimed product(s), see *In re Best*, 195 USPQ 430.

Claims 1 and 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pinnavaia et al. (US 6,027,706).

Pinnavaia et al. discloses mesostructured alumina with pore volumes of greater than or equal to $0.40 \text{ cm}^3/\text{g}$ and with surface areas greater than $200 \text{ m}^2/\text{g}$ (see column 23, lines 39-40). Non-ionic surfactants were used, such as PEO. A low angle x-ray diffraction line corresponding to a basal spacing of at least 3.0 nm is taught (column 6, line 57). The pseudo-boehmite phase is taught at the bottom of column 17. Pinnavaia et al. does not disclose multiple wide angle x-ray diffraction lines that would establish a boehmite or gamma alumina structure, but may inherently show these lines in an x-ray diffractogram, especially since pseudo-boehmite phases are taught. Where the claimed and prior art product(s) are identical or substantially identical, or are

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produced by identical or substantially identical process(es), the burden of proof is on applicant to establish that the prior art product(s) do not necessarily or inherently possess the characteristics of the instantly claimed product(s), see *In re Best*, 195 USPQ 430.

Claims 1 and 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bagshaw et al. ("Mesoporous Alumina Molecular Sieves").

Bagshaw et al. discloses mesostructured alumina with pore volumes of greater than or equal to $0.40 \text{ cm}^3/\text{g}$ and with surface areas greater than $200 \text{ m}^2/\text{g}$. Non-ionic surfactants were used, such as PEO. A low angle x-ray diffraction line corresponding to a basal spacing of at least 3.0 nm is taught. Bagshaw et al. does not disclose multiple wide angle x-ray diffraction lines that would establish a boehmite or gamma alumina structure, but may inherently show these lines in an x-ray diffractogram. Where the claimed and prior art product(s) are identical or substantially identical, or are produced by identical or substantially identical process(es), the burden of proof is on applicant to establish that the prior art product(s) do not necessarily or inherently possess the characteristics of the instantly claimed product(s), see *In re Best*, 195 USPQ 430.

Claims 1, 3, and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaudry et al. ("Synthesis of Pure Alumina Mesoporous Materials").

Vaudry et al. discloses mesostructured alumina with pore volumes of greater than or equal to $0.40 \text{ cm}^3/\text{g}$ and with surface areas greater than $200 \text{ m}^2/\text{g}$ (Table 5). A low angle x-ray diffraction line corresponding to a basal spacing of at least 3.0 nm is taught (Table 2). Vaudry et

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al. does not disclose multiple wide angle x-ray diffraction lines that would establish a boehmite or gamma alumina structure, but may inherently show these lines in an x-ray diffractogram.

Where the claimed and prior art product(s) are identical or substantially identical, or are produced by identical or substantially identical process(es), the burden of proof is on applicant to establish that the prior art product(s) do not necessarily or inherently possess the characteristics of the instantly claimed product(s), see *In re Best*, 195 USPQ 430.

Claims 1 and 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolenda et al. (US 6,197,276).

Kolenda et al. teach a process for the formation of mesostructured hydrated alumina. The process involves mixing a solution, A, containing aluminum in the form of cation-monomers with a solution B, containing non-ionic surfactants (examples 2, 5, and 7). Kolenda teaches the tetrahedral and octahedral coordination of the mesoporous hydrated alumina. While Kolenda et al. does not explicitly teach the properties of the hydrated alumina product, it is expected to have these properties because substantially no difference is seen between the process of Kolenda et al. and that of the instantly claimed invention. Where the claimed and prior art product(s) are identical or substantially identical, or are produced by identical or substantially identical process(es), the burden of proof is on applicant to establish that the prior art product(s) do not necessarily or inherently possess the characteristics of the instantly claimed product(s), see *In re Best*, 195 USPQ 430.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Lish whose telephone number is 703-308-1772. The examiner can normally be reached on 9:00-6:00 Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

PL



STUART L. HENDRICKSON
PRIMARY EXAMINER